APPENDIX C

METEOROLOGICAL AND OCEANOGRAPHIC (METOC) SYMBOLOGY

C.1 GENERAL

C.1.1 Scope. This appendix addresses tactical graphics in the Meteorological and Oceanographic (METOC) domain. Although the symbology in this domain is outside the configuration management of MIL-STD-2525, it is beneficial to present the information to users of this standard as a separate appendix. This appendix has been coordinated and approved by the Joint METOC community and is a mandatory part of this standard. The information contained herein is intended for compliance.

C.2 APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

C.3 DEFINITIONS

The definitions in section 3 of this standard apply to this appendix.

C.4 GENERAL REQUIREMENTS

C.4.1 Organization. The purpose of warfighting symbology is to convey information about objects in the warfighter battlespace. This appendix contains the technical specifications, symbol coding scheme, symbology hierarchy, and the tactical graphics for the METOC symbology set.

C.5. DETAILED REQUIREMENTS

C.5.1 Technical Specifications. Composition, construction, display, and transmission of tactical graphics are explained in the Detailed Requirements section of the standard.

C.5.2 Symbology identification (ID) coding scheme. A symbol ID code is a 15-character alphanumeric identifier that provides the information necessary to display or transmit a tactical graphic between MIL-STD-2525 compliant systems.

C.5.2.1 Code positions. The positions of the symbol ID code are described below. Since many graphics do not have an entry in every code position, a dash (-) is used to fill each unused position. Table C-I identifies the fields of information included in a symbol ID code and the position each occupies in the 15-character identifier. The values in each field are filled from left to right unless otherwise specified.

a. Position 1, coding scheme, indicates which overall symbology set a graphic belongs to.

b. Position 2, category, identifies a graphic as an atmospheric, oceanic, or space weather phenomenon.

c. Positions 3 and 4 are not used in the METOC symbology set.

d. Positions 5 through 10, function ID, identify a graphic's function. Each position indicates an increasing level of detail and specialization.

e. Positions 11 through 15 are not used in the METOC symbology set.

TABLE C-I. Symbol code positions and categories.

CODING SCHEME (1) (POSITION 1)	CATEGORY(1) (POSITION 2)	(POSITIONS 3-4)	FUNCTION ID (POSITIONS 5-10)	(POSITIONS 11-15)
S - C^2 Symbology: Units, Equipment, and Installations G - C2 Symbology: Military Operations W - METOC I - Signals Intelligence M - Mapping (Reserved - under Development) O - Military Operations Other Than War (MOOTW)	A - Atmospheric O - Oceanic S - Space	Not Used	See table C-II for specific values.	Not Used

C.5.2.2 Symbol ID code table. Table C-II lists the codes for METOC symbology. As stated earlier in paragraph A.5.2.1, a dash (-) is used to fill each unused position.

TABLE C-II. METOC graphics symbol ID codes.

HIERARCHY	CODE SCHEME	CATEGORY	NOT USED[1]		FUNCTION ID			NOT USED[2]			DESCRIPTION
3	W	-	-	-	--	--	--	--	--	-	METOC
3.1	W	A	-	-	--	--	--	--	--	-	ATMOSPHERIC
3.1	W	A	-	-	P-	--	--	--	--	-	PRESSURE SYSTEMS
3.1.1.1	W	A	-	-	PL	--	--	--	--	-	LOW PRESSURE CENTER
3.1.1.2	W	A	-	-	PH	--	--	--	--	-	HIGH PRESSURE CENTER
3.1.1.3	W	A	-	-	PF	--	--	--	--	-	FRONTAL SYSTEMS
3.1.1.3.1	W	A	-	-	PF	C-	--	--	--	-	COLD FRONT
3.1.1.3.1.1	W	A	-	-	PF	CU	--	--	--	-	UPPER COLD FRONT
3.1.1.3.2	W	A	-	-	PF	W-	--	--	--	-	WARM FRONT
3.1.1.3.2.1	W	A	-	-	PF	WU	--	--	--	-	UPPER WARM FRONT
3.1.1.3.3	W	A	-	-	PF	O-	--	--	--	-	OCCLUDED FRONT
3.1.1.3.4	W	A	-	-	PF	S-	--	--	--	-	STATIONARY FRONT
3.1.1.4	W	A	-	-	PX	--	--	--	--	-	LINES

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TABLE C-II. METOC graphics symbol ID codes - Continued.

HIERARCHY	CODE SCHEME	CATEGORY	NOT USED		FUNCTION ID			NOT USED			DESCRIPTION
3.1.1.4.1	W	A	-	-	PX	T-	--	--	--	-	TROUGH LINE
3.1.1.4.2	W	A	-	-	PX	R-	--	--	--	-	RIDGE LINE
3.1.1.4.3	W	A	-	-	PX	S-	--	--	--	-	SQUALL LINE
3.1.2	W	A	-	-	T-	--	--	--	--	-	TURBULENCE
3.1.2.1	W	A	-	-	TL	--	--	--	--	-	LIGHT TURBULENCE
3.1.2.2	W	A	-	-	TM	--	--	--	--	-	MODERATE TURBULENCE
3.1.2.3	W	A	-	-	TS	--	--	--	--	-	SEVERE TURBULENCE
3.1.2.4	W	A	-	-	TE	--	--	--	--	-	EXTREME TURBULENCE
3.1.3	W	A	-	-	I-	--	--	--	--	-	ICING
3.1.3.1	W	A	-	-	IC	--	--	--	--	-	CLEAR ICING
3.1.3.1.1	W	A	-	-	IC	L-	--	--	--	-	LIGHT CLEAR ICING
3.1.3.1.2	W	A	-	-	IC	M-	--	--	--	-	MODERATE CLEAR ICING
3.1.3.1.3	W	A	-	-	IC	S-	--	--	--	-	SEVERE CLEAR ICING
3.1.3.2	W	A	-	-	IR	--	--	--	--	-	RIME ICING
3.1.3.2.1	W	A	-	-	IR	L-	--	--	--	-	LIGHT RIME ICING
3.1.3.2.2	W	A	-	-	IR	M-	--	--	--	-	MODERATE RIME ICING
3.1.3.2.3	W	A	-	-	IR	S-	--	--	--	-	SEVERE RIME ICING
3.1.3.3	W	A	-	-	IM	--	--	--	--	-	MIXED ICING
3.1.3.3.1	W	A	-	-	IM	L-	--	--	--	-	LIGHT MIXED ICING
3.1.3.3.2	W	A	-	-	IM	M-	--	--	--	-	MODERATE MIXED ICING
3.1.3.3.3	W	A	-	-	IM	S-	--	--	--	-	SEVERE MIXED ICING
3.1.4	W	A	-	-	W-	--	--	--	--	-	WIND BARB
3.1.4.1	W	A	-	-	WJ	--	--	--	--	-	JET STREAM
3.1.5	W	A	-	-	F-	--	--	--	--	-	FLIGHT RULES
3.1.5.1	W	A	-	-	FI	--	--	--	--	-	INSTRUMENT CEILING
3.1.5.2	W	A	-	-	FV	--	--	--	--	-	VISUAL CEILING
3.1.6	W	A	-	-	C-	--	--	--	--	-	COVERAGE SYMBOLS
3.1.6.1	W	A	-	-	CC	--	--	--	--	-	CLEAR SKY (SKC)
3.1.6.2	W	A	-	-	CS	--	--	--	--	-	SCATTERED SKY (SCT)
3.1.6.3	W	A	-	-	CB	--	--	--	--	-	BROKEN SKY (BKN)
3.1.6.4	W	A	-	-	CW	--	--	--	--	-	OVERCAST WITH BREAKS
3.1.6.5	W	A	-	-	CO	--	--	--	--	-	OVERCAST (OVC)
3.1.6.6	W	A	-	-	CP	--	--	--	--	-	SKY OBSCURED OR PARTIALLY OBSCURED
3.1.7	W	A	-	-	R-	--	--	--	--	-	PRECIPITATION
3.1.7.1	W	A	-	-	RR	--	--	--	--	-	RAIN (RA)
3.1.7.1.1	W	A	-	-	RR	S-	--	--	--	-	RAIN SHOWER
3.1.7.1.2	W	A	-	-	RR	F-	--	--	--	-	FREEZING RAIN (FZRA)
3.1.7.1.3	W	A	-	-	RR	D-	--	--	--	-	DRIZZLE (DZ)
3.1.7.1.3.1	W	A	-	-	RR	DF	--	--	--	-	FREEZING DRIZZLE (FZDZ)
3.1.7.2	W	A	-	-	RS	--	--	--	--	-	SNOW(SN)
3.1.7.2.1	W	A	-	-	RS	S-	--	--	--	-	SNOW SHOWERS
3.1.7.2.2	W	A	-	-	RS	G-	--	--	--	-	SNOW GRAINS (SG)
3.1.7.3	W	A	-	-	RH	--	--	--	--	-	HAIL

TABLE C-II. METOC graphics symbol ID codes - Continued.

HIERARCHY	CODE SCHEME	CATEGORY	NOT USED		FUNCTION ID			NOT USED			DESCRIPTION
3.1.7.4	W	A	-	-	RI	--	--	--	--	-	ICE PELLETS (PE)
3.1.7.5	W	A	-	-	RC	--	--	--	--	-	ICE CRYSTALS (IC)
3.1.8	W	A	-	-	S-	--	--	--	--	-	STORMS
3.1.8.1	W	A	-	-	ST	--	--	--	--	-	THUNDERSTORMS (TS)
3.1.8.1.1	W	A	-	-	ST	R-	--	--	--	-	THUNDERSTORM (TS) WITH RAIN (RA)
3.1.8.1.2	W	A	-	-	ST	F-	--	--	--	-	FUNNEL CLOUD (FC)/TORNADO/WATERSPOUT
3.1.8.1.3	W	A	-	-	ST	L-	--	--	--	-	LIGHTNING (LTG)
3.1.8.2	W	A	-	-	SS	--	--	--	--	-	STORM SYSTEMS
3.1.8.2.1	W	A	-	-	SS	T-	--	--	--	-	TROPICAL STORM
3.1.8.2.2	W	A	-	-	SS	H-	--	--	--	-	HURRICANE
3.1.9	W	A	-	-	O-	--	--	--	--	-	OBSTRUCTIONS TO VISIBILITY
3.1.9.1	W	A	-	-	OS	--	--	--	--	-	BLOWING SNOW (BLSN)
3.1.9.2	W	A	-	-	OF	--	--	--	--	-	FOG (FG)
3.1.9.2.1	W	A	-	-	OF	F-	--	--	--	-	FREEZING FOG (FZFG)
3.1.9.3	W	A	-	-	OT	--	--	--	--	-	DUST/SAND STORM
3.1.9.4	W	A	-	-	OD	--	--	--	--	-	DUST DEVIL
3.1.9.5	W	A	-	-	OK	--	--	--	--	-	SMOKE (FU)
3.1.9.6	W	A	-	-	OH	--	--	--	--	-	HAZE (HZ)
3.1.9.7	W	A	-	-	OB	--	--	--	--	-	BLOWING DUST OR SAND
3.2	W	O	-	-	--	--	--	--	--	-	OCEANIC
3.3	W	S	-	-	--	--	--	--	--	-	SPACE

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C.5.3 Symbology hierarchy. The flowcharts illustrating the symbology hierarchy for METOC are broken down to show individual branches of the hierarchy. Each branch is graphically represented to its lowest level.

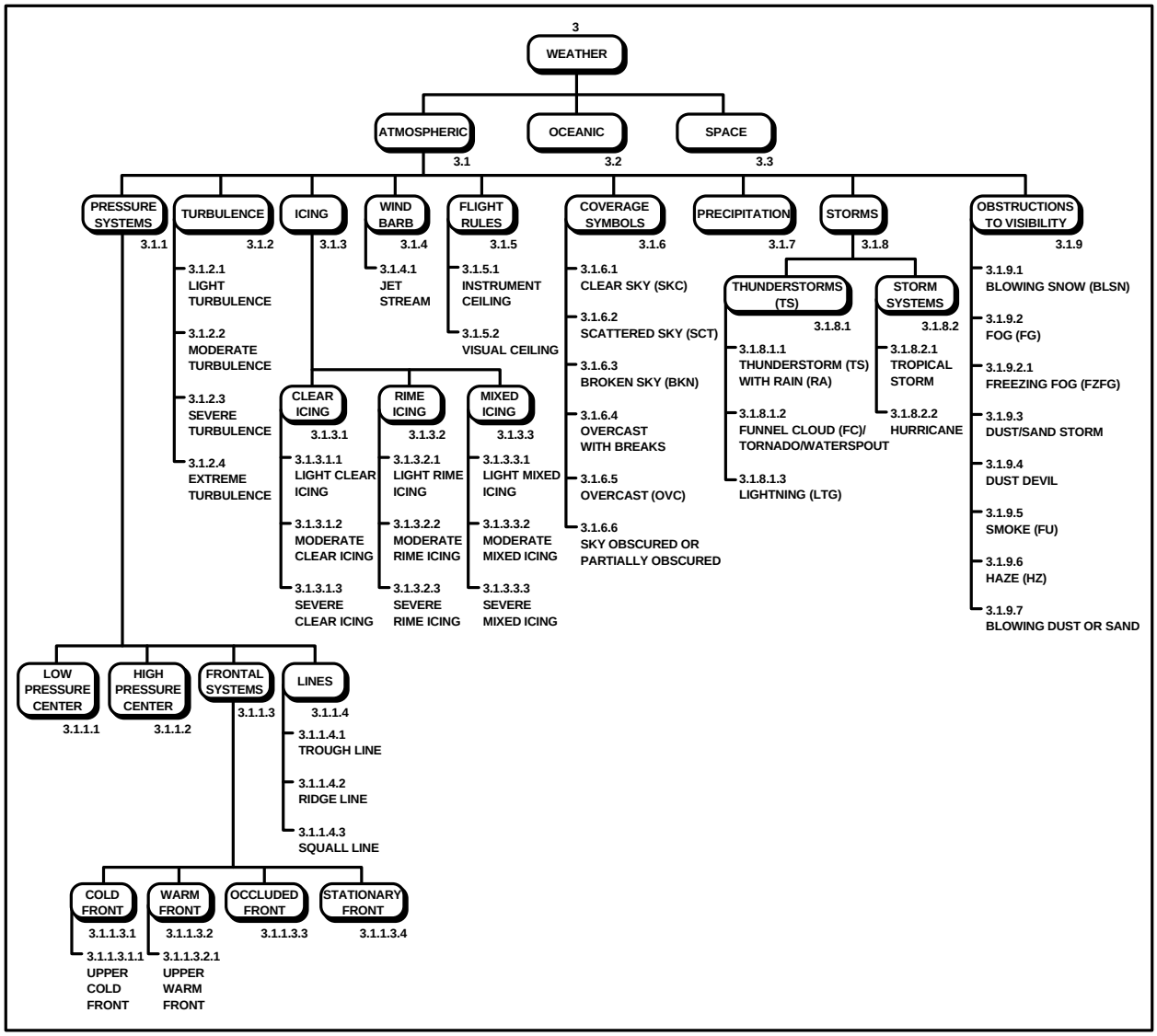

FIGURE C-1. METOC.

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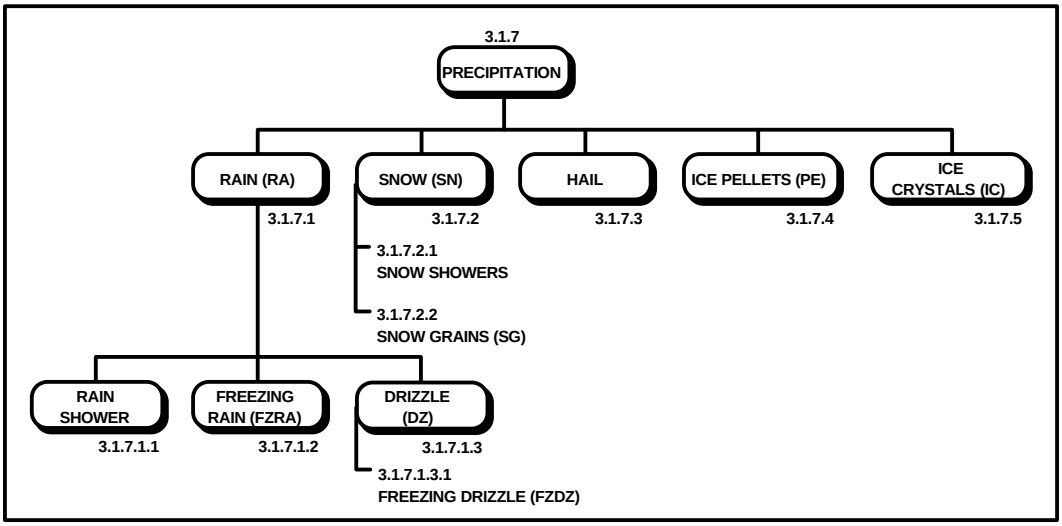

FIGURE C-2. Precipitation.

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C.5.4 Symbology set. Table C-III provides a graphic representation of each approved METOC graphic. In the following table, the Description column provides a concise description of each graphic using operational terminology. The Hierarchy column presents the information hierarchy (taxonomy) number described earlier in the appendix. The Sym-ID portion of the Hierarchy column presents the 15-character alphanumeric identifier necessary for automated systems to create each specific METOC graphic. As indicated previously, a dash (-) indicates that no information is provided in the position. The METOC symbology provided in this appendix is an example of a special symbology set included in this standard. Although METOC symbology was derived from AF 51-12 and sources accepted by the international community, it is considered a mandatory part of this standard and shall be followed when presenting METOC symbology in MIL-STD-2525 compliant systems. The content of special symbology sets is maintained by an operational community other than the SSMC and is not under configuration management by this group. As a result, the symbology is not harmonized with the current standard and may be inconsistent with the symbology requirements presented here.

TABLE C-III. METOC graphics.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
METOC	3 W----------	
ATMOSPHERIC	3.1 WA----------	
PRESSURE SYSTEM	3.1.1 WA--P----------	
LOW PRESSURE CENTER **1.** An area of low atmospheric pressure which has a closed circulation that is cyclonic, i.e., as viewed from above, the circulation is counterclockwise in the Northern Hemisphere, clockwise in the Southern Hemisphere, undefined at the Equator. Because cyclonic circulation and relatively low atmospheric pressure usually coexist, in common practice the terms cyclone and low pressure center are used interchangeably. Also, because cyclones often are accompanied by inclement (sometimes destructive) weather, they are frequently referred to simply as storms. **2.** Frequently misused to denote a tornado. **3.** In the Indian Ocean, a tropical cyclone of hurricane or typhoon force.	3.1.1.1 WA--PL---------	 (Red)

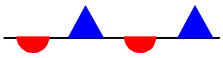
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
HIGH PRESSURE CENTER An area of high atmospheric pressure which has a closed circulation that is anticyclonic, i.e., as viewed from above, the circulation is clockwise in the Northern Hemisphere, counterclockwise in the southern Hemisphere, undefined at the Equator.	3.1.1.2 WA--PH---------	 (Blue)
FRONTAL SYSTEMS	3.1.1.3 WA--PF---------	
COLD FRONT	3.1.1.3.1 WA--PFC--------	 (Blue)
UPPER COLD FRONT Occurs when discontinuity at the forward edge of an advancing cold air mass is displacing warmer air in its path and the two air masses intersect above ground level.	3.1.1.3.1.1 WA--PFCU-------	 (Blue)
WARM FRONT The discontinuity at the forward edge of an advancing warm air mass that is displacing cooler air in its path.	3.1.1.3.2 WA--PFW--------	 (Red)

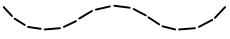
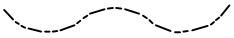
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
UPPER WARM FRONT Occurs when discontinuity at the forward edge of an advancing warm air mass is displacing cooler air in its path and the two air masses intersect above ground level.	3.1.1.3.2.1 WA--PFWU-------	 (Red)
OCCLUDED FRONT The line along which a cold front has overtaken a warm front at ground level.	3.1.1.3.3 WA--PFO--------	 (Purple)
STATIONARY FRONT A situation in which the surface position of a front does not move; the flow on either side of such a boundary is nearly parallel to the position of the front.	3.1.1.3.4 WA--PFS--------	 (Blue/Red)

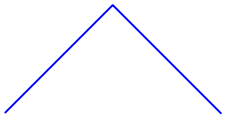
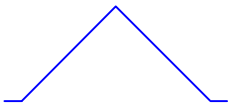
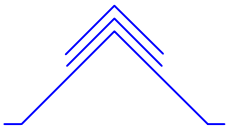
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
LINES	3.1.1.4 WA--PX---------	
TROUGH LINE An elongated region of low atmospheric pressure. (dashed line)	3.1.1.4.1 WA--PXT--------	 (Black)
RIDGE LINE An elongated region of high atmospheric pressure.	3.1.1.4.2 WA--PXR--------	 (Black)
SQUALL LINE A line of high winds and thunderstorms in convectively unstable air, an instability line (of non-frontal nature); it may be generated by a cold front. Such a line may be some hundreds of miles in length and is sometimes called a pseudofront. It is associated with line thunderstorms, shear line of which are the squall lines, accompanied by strong gusts, hail, rain and sometimes tornadoes, but well in advance of the cold front (if present). (Alternating dash/double dot line)	3.1.1.4.3 WA--PXS--------	 (Black)

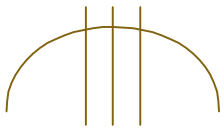
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
TURBULENCE Turbulence is a transitory atmospheric condition which has varying effects on aircraft operations. It is a serious hazard to pilots that may occur without warning.	3.1.2 WA--T---------	
LIGHT TURBULENCE Description is dependent on associated aircraft type.	3.1.2.1 WA--TL---------	 (Blue)
MODERATE TURBULENCE Description is dependent on associated aircraft type.	3.1.2.2 WA--TM---------	 (Blue)
SEVERE TURBULENCE Description is dependent on associated aircraft type.	3.1.2.3 WA--TS---------	 (Blue)
EXTREME TURBULENCE Description is dependent on associated aircraft type.	3.1.2.4 WA--TE---------	 (Blue)
ICING	3.1.3 WA--I---------	

Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
CLEAR ICING Glossy, clear, or translucent ice formed by the relatively slow freezing of large supercooled droplets. The droplets spread out over the airframe surface before completely freezing.	3.1.3.1 WA--IC---------	
LIGHT CLEAR ICING Description is dependent on associated aircraft type.	3.1.3.1.1 WA--ICL--------	 (Brown)
MODERATE CLEAR ICING Description is dependent on associated aircraft type.	3.1.3.1.2 WA--ICM--------	 (Brown)
SEVERE CLEAR ICING Description is dependent on associated aircraft type.	3.1.3.1.3 WA--ICS--------	 (Brown)

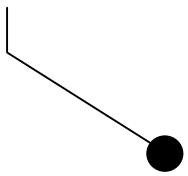
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
RIME ICING Rough, milky opaque ice formed by the instantaneous freezing of small supercooled droplets which trap air within the ice as they strike the aircraft.	3.1.3.2 WA--IR---------	
LIGHT RIME ICING Description is dependent on associated aircraft type.	3.1.3.2.1 WA--IRL--------	 (Brown)
MODERATE RIME ICING Description is dependent on associated aircraft type.	3.1.3.2.2 WA--IRM--------	 (Brown)
SEVERE RIME ICING Description is dependent on associated aircraft type.	3.1.3.2.3 WA--IRS--------	 (Brown)

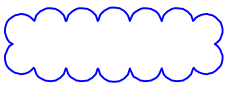
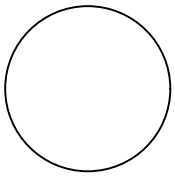
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
MIXED ICING A hard rough conglomerate of ice which can cause very rough accumulation and severe loss of lift.	3.1.3.3 WA--IM---------	
LIGHT MIXED ICING Description is dependent on associated aircraft type.	3.1.3.3.1 WA--IML--------	 (Brown)
MODERATE MIXED ICING Description is dependent on associated aircraft type.	3.1.3.3.2 WA--IMM--------	 (Brown)
SEVERE MIXED ICING Description is dependent on associated aircraft type.	3.1.3.3.3 WA--IMS--------	 (Brown)
WIND BARB Used, in different variations, to represent wind speeds.	3.1.4 WA--W----------	 (Black)

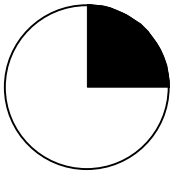
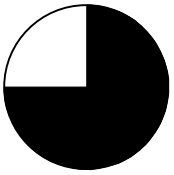
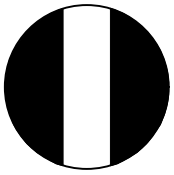
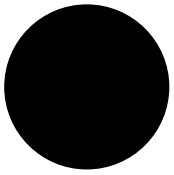
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
JET STREAM A narrow belt of strong winds, with speeds of 50 to 200 knots, in the upper troposphere. In the Northern Hemisphere these winds usually have a westerly component.	3.1.4.1 WA--WJ---------	 (Red)
FLIGHT RULES	3.1.5 WA--F----------	
INSTRUMENT CEILING Evaluation of ceiling height by cloud measuring equipment.	3.1.5.1 WA--FI---------	 (Red)
VISUAL CEILING The height above the earth's surface of the lowest (thin or opaque) layer reported as broken (5-7 oktas) or overcast (8 oktas), or the vertical visibility into an indefinite ceiling.	3.1.5.2 WA--FV---------	 (Blue)
COVERAGE SYMBOLS	3.1.6 WA--C----------	
CLEAR SKY (SKC) The absence of layers of clouds or other obscuring phenomena.	3.1.6.1 WA--CC---------	 (Black)

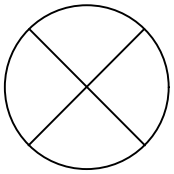
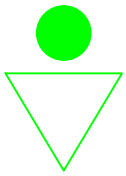
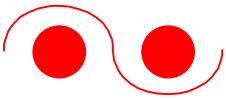
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
SCATTERED SKY (SCT) A summation sky cover of 3/8 through 4/8.	3.1.6.2 WA--CS---------	 (Black)
BROKEN SKY (BKN) A summation sky cover of 5/8 through less than 8/8.	3.1.6.3 WA--CB---------	 (Black)
OVERCAST WITH BREAKS A condition in which an overcast layer has discernible break(s) totaling less than 1 okta.	3.1.6.4 WA--CW---------	 (Black)
OVERCAST (OVC) A summation sky cover of 8/8.	3.1.6.5 WA--CO---------	 (Black)

Note: White filled icon represents white opaque filled icon.

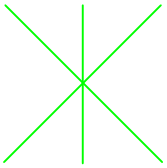
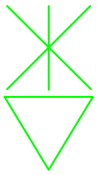
TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
SKY OBSCURED OR PARTIALLY OBSCURED 1. OBSCURED - A condition in which surface-based obscuring phenomena (e.g., fog, rain, snow) are hiding 8/8 of the sky or higher layers. The terms “obscuration” and “indefinite ceiling” may also be used in relation to this sky condition. 2. PARTIALLY OBSCURED- A condition in which surface-based obscuring phenomena are hiding at least 1/8, but less than 8/8, of the sky or higher layers. The term “partial obscuration” may also be used in relation to this sky condition.	3.1.6.6 WA--CP---------	 (Black)
PRECIPITATION	3.1.7 WA--P----------	
RAIN (RA) Precipitation, either in the form of drops larger than 0.02 inch (0.5 mm), or smaller drops, which in contrast to drizzle, are widely separated.	3.1.7.1 WA--PR---------	 (Green)
RAIN SHOWER The rain changes intensity or starts and stops abruptly. These showers fall exclusively from cumuliform clouds.	3.1.7.1.1 WA--PRS--------	 (Green)
FREEZING RAIN (FZRA) Rain that freezes on impact with the ground, with objects in flight, or with objects on the ground. Produces glaze (clear) ice.	3.1.7.1.2 WA--PRF--------	 (Red)

Note: White filled icon represents white opaque filled icon.

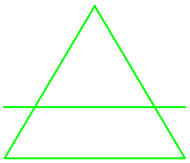
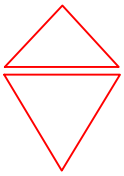
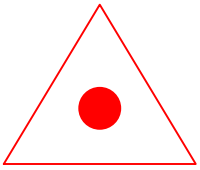
APPENDIX C

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
DRIZZLE (DZ) Fairly uniform precipitation composed exclusively of fine drops (diameter less than 0.02 inch or 0.5 mm) very close together. Drizzle appears to float while following air currents, although, unlike fog droplets, it falls to the ground. It usually falls from low stratus clouds and is frequently accompanied by low visibility and fog.	3.1.7.1.3 WA--PRD--------	 (Green)
FREEZING DRIZZLE (FZDZ) Drizzle which freezes upon impact with the ground, with objects in flight, or with objects on the ground. Produces glaze (clear) ice.	3.1.7.1.3.1 WA--PRDF-------	 (Red)
SNOW (SN) Precipitation of snow crystals, mostly branched in the form of six-pointed stars, many times clustered to form snowflakes.	3.1.7.2 WA--PS---------	 (Green)
SNOW SHOWERS Snow that changes intensity or starts and stops abruptly. These showers fall exclusively from cumuliform clouds.	3.1.7.2.1 WA--PSS---****	 (Green)

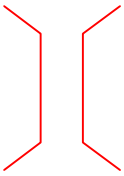
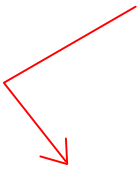
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
SNOW GRAINS (SG) Precipitation of very small, white, opaque particles of ice; the solid equivalent of drizzle. The grains are fairly flat or elongated. Diameters are generally less than .04 inch (1 mm). When the grains hit hard ground, they do not bounce or shatter. They usually fall in very small quantities from stratus clouds (or occasionally from fog).	3.1.7.2.2 WA--PSG--------	 (Green)
HAIL Precipitation in the form of small balls or other pieces of ice falling separately or frozen together in irregular lumps. Hailstones consist of alternate opaque and clear layers of ice in most cases. Hail is normally associated with thunderstorms and surface temperatures above freezing.	3.1.7.3 WA--PH---------	 (Red)
ICE PELLETS (PE) Precipitation of transparent or translucent pellets of ice, which are round or irregular, rarely conical, and have a diameter of 0.2 inch (5 mm) or less. The pellets usually rebound when striking hard ground and make a sound on impact. They are two main types. Hard grains of ice consisting of frozen raindrops or melted and refrozen snowflakes and pellets of snow encased in a thin layer of ice formed from the freezing, either of droplets intercepted by the pellets, or of water resulting from the partial melting of the pellets.	3.1.7.4 WA--PI---------	 (Red)
ICE CRYSTALS (IC) A fall of unbranched (snow crystals are branched) ice crystals in the form of needles, columns, or plates. They are termed “ice prisms” in synoptic observations. Ice crystals are often so tiny they seem to be suspended in the air. They may fall from a cloud or from clear air. The crystals are visible mainly when they glitter in the sunshine or other bright light (diamond dust), thus producing a luminous pillar or other optical phenomena. This hydrometeor (rarely more than the lightest precipitation), which is frequent in polar regions, occurs only at very low temperatures in stable air masses.	3.1.7.5 WA--PC---------	

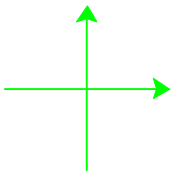
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
STORMS	3.1.8 WA--S----------	
THUNDERSTORM (TS) A local storm produced by a cumulonimbus cloud accompanied by strong gusty winds, vertical currents at higher levels, and heavy precipitation with lightning and/or thunder. It is usually a few miles in both horizontal and vertical dimensions, extending from the ground up to 20,000, 40,000, or even 60,000 feet in the most vigorous examples.	3.1.8.1 WA--ST---------	 (Red)
THUNDERSTORM (TS) AND RAIN (RA) A local storm produced by a cumulonimbus cloud accompanied by lightning and/or thunder and precipitation, either in the form of drops larger than 0.02 inch (0.5 mm), or smaller drops, which in contrast to drizzle, are widely separated.	3.1.8.1.1 WA--STR--------	 (Red)
FUNNEL CLOUD (FC)/ TORNADO /WATERSPOUT 1. FUNNEL CLOUD (FC)- A violent, rotating column of air which does not touch the ground, usually appended to a cumulonimbus cloud. Also called a tuba. 2. TORNADO (+FC)- A violent, rotating column of air touching the ground; i.e., a funnel cloud that is touching the ground. A tornado nearly always starts as a funnel cloud (FC) and is accompanied by a loud, roaring noise. 3. WATERSPOUT (+FC)- A violent, rotating column of air that forms over a body of water, such as a bay, gulf, or lake, and touches the water surface; a tornado or funnel cloud that touches a body of water.	3.1.8.1.2 WA--STF--------	 (Red)
LIGHTNING (LTG) A luminous manifestation accompanying a sudden electrical discharge which takes place from or inside a cloud or, less often, from high structures on the ground, or from mountains.	3.1.8.1.3 WA--STL--------	 (Red)
STORM SYSTEMS	3.1.8.2 WA--SS---------	

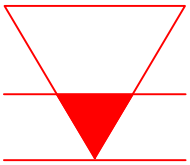
Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
1. TROPICAL STORM A tropical cyclone having winds ranging from 34 knots (39 mph) to 63 knots (73 mph).	3.1.8.2.1 WA--SST--------	 (Red)
HURRICANE Tropical cyclones, especially in the West Indies, in which the wind velocity equals or exceeds 64 knots (74 mph).	3.1.8.2.2 WA--SSH--------	 (Red)
OBSTRUCTIONS TO VISIBILITY	3.1.9 WA--O---------	
BLOWING SNOW (BLSN) Snow particles raised and stirred violently by the wind to moderate or great heights. Prevailing visibility is reduced to less than 7 miles (9,999 meters) and the sky may become obscured when the particles are raised to great heights.	3.1.9.1 WA--OS---------	 (Green)

Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
FOG (FG) A visible aggregate of minute water particles (droplets) which are based on the Earth's surface, extend vertically, and reduce horizontal visibility to less than 5/8 mile (1,000 meters). When fog is further described by the descriptors BC, MI, or PR, the prevailing visibility may be equal to or greater than 5/8 mile (1,000 meters). Unlike drizzle, FG does not fall to the ground.	3.1.9.2 WA--OF---------	 (Yellow)
FREEZING FOG (FZFG) A suspension of numerous minute ice crystals in the air, or water droplets at temperatures below 0 degrees Celsius, based at the Earth's surface and extending vertically to greater than 6 feet (1.8 meters). FZFG reduces prevailing visibility to less than 5/8 mile (1,000 meters) and, unlike drizzle, does not fall to the ground. The water droplets may freeze upon contact with exposed objects to form a coating of rime or glaze, and it can occur even though the air temperature is above freezing. The water droplets may freeze upon contact with exposed objects to form a coating of rime or glaze. Also called ice fog.	3.1.9.2.1 WA--OFF--------	 (Red)
DUST OR SAND STORM 1. DUSTSTROM (DS). An unusual, frequently severe weather condition characterized by strong winds and dust-filled air over an extensive area. Report a duststorm if the prevailing visibility is reduced to less than 5/8 miles (1,000 meters), but not less than 5/16 miles (500 meters). Report a heavy (severe) duststorm (+DS) if the visibility is reduced to less than 5/16 miles (500 meters). 2. SANDSTORM (SS). Particles of sand ranging in diameter from 0.008 inches to 1 millimeter carried aloft by a strong wind. The sand particles are mostly confined to the lowest 10 feet, and rarely rise more than 50 feet above the ground. A sandstorm is reported if the prevailing visibility is reduced to less than 5/8 miles (1,000 meters), but not less than 5/16 miles (500 meters). Report a heavy (severe) sandstorm (+SS) if the visibility is reduced to less than 5/16 miles (500 meters).	3.1.9.3 WA--OT---------	 (Brown)
DUST DEVIL Well-developed dust/sand whirls (PO). An ensemble of particles of dust or sand, sometimes accompanied by small litter, raised from the ground in the form of a whirling column of varying height with a small diameter and an approximately vertical axis. Reported regardless of the visibility.	3.1.9.4 WA--OD---------	 (Brown)

Note: White filled icon represents white opaque filled icon.

TABLE C-III. METOC graphics - Continued.

DESCRIPTION	HIERARCHY SYM-ID	METOC GRAPHIC
SMOKE (FU) A suspension in the air of small particles produced by combustion. A transition to haze may occur when smoke particles have traveled great distances (25 to 100 miles or 40 to 160 kilometers or more) and when the larger particles have settled out and the remaining particles have become widely scattered through the atmosphere. When viewed through smoke, the disk of the sun at sunrise and sunset appears very red. The disk may have an orange tinge when the sun is above the horizon. Evenly distributed smoke from distant sources generally has a light grayish or bluish appearance.	3.1.9.5 WA--OK---------	 (Brown)
HAZE (HZ) A suspension in the air of extremely small, dry particles invisible to the naked eye and sufficiently numerous to give the air an opalescent appearance. This phenomenon resembles a uniform veil over the landscape and subdues all colors. Dark objects viewed through this veil tend to have a bluish tinge while bright objects, such as the sun or distant lights, tend to have a dirty yellow or reddish hue. When haze is present and the sun is well above the horizon, its light may have a peculiar silvery tinge. Haze particles may be composed of a variety of substances; e.g., dust, salt, residue from distant fires or volcanoes, pollen, etc., which generally are well diffused through the atmosphere.	3.1.9.6 WA--OH---------	 (Brown)
BLOWING DUST OR SAND Dust or sand raised by the wind to a height of 6 feet (1.8 meters) or more.	3.1.9.7 WA--OB---------	 (Brown)
OCEANIC	3.2 WO----------	
SPACE	3.3 WS----------	

Note: White filled icon represents white opaque filled icon.